

**WHAT IS CLAIMED IS:**

- 1        1. A method of managing a computer database, comprising the steps of:  
2              importing data into a database residing on a computer system;  
3              constructing a schema object to represent a schema of the database; and  
4              manipulating the database using an aggregate classifier based on the schema  
5              object.
- 1        2. The method of Claim 1 wherein said constructing step includes the steps of:  
2              defining a plurality of classifier definitions corresponding to the schema of the  
3              database; and  
4              mapping the classifier definitions to columns and tables in the database.
- 1        3. The method of Claim 2 wherein said defining step defines a "property"  
2              classifier which interacts with a single column on a single table in the database.
- 1        4. The method of Claim 3 wherein said defining step further defines an  
2              "object" classifier which contains one or more of the "property" classifiers.
- 1        5. The method of Claim 3 wherein said defining step defines a "split-object"  
2              classifier which makes more than one "object" classifier appear as a single classifier.
- 1        6. The method of Claim 5 wherein said defining step further defines a "join"  
2              classifier which identifies how multiple "object" classifiers database objects are  
3              linked in a "split-object" classifier.
- 1        7. The method of Claim 5 wherein said defining step defines a "mapped  
2              property" classifier as a special form of the "split-object" classifier to manage data  
3              stored in a table of the database which serves as an index to another database table.
- 1        8. The method of Claim 2 wherein said defining step defines a parameterized  
2              classifier which is a template for classifiers that are instantiated when associated  
3              parameters are provided.

1        9. The method of Claim 1 further comprising the steps of:  
2              modifying the schema of the database;  
3              constructing a second schema object for the modified database; and  
4              manipulating the modified database using the second schema object.

1        10. The method of Claim 9 wherein said step of constructing the second  
2        schema object includes the step of re-writing classification definitions stored on the  
3        computer system.

1        11. The method of Claim 1 wherein said constructing step includes the step of  
2        writing classification definitions stored on the computer system using a field-based  
3        language.

1        12. The method of Claim 11 wherein said writing step uses XML.

1        13. The method of Claim 1 wherein said constructing step includes the step of  
2        writing classification definitions stored on the computer system.

1        14. The method of Claim 13 wherein said importing step parses an import file  
2        to import the data.

1        15. The method of Claim 13 wherein said manipulating step includes the step  
2        of an application, residing on the computer system, interacting with a composite  
3        object included in the classification definitions.

1        16. The method of Claim 1 wherein said manipulating step includes the step of  
2        generating a SQL SELECT query using the query generator.

1        17. The method of Claim 1 wherein said manipulating step includes the step of  
2        generating a SQL INSERT query using the query generator.

1        18. The method of Claim 1 wherein said manipulating step includes the step of  
2        generating a SQL UPDATE query using the query generator.

1        19. The method of Claim 1 wherein said manipulating step includes the step  
2 of generating a SQL DELETE query using the query generator.

1        20. The method of Claim 16 wherein said generating step includes the step of  
2 an aggregate classifier interrogating the schema object to determine how different  
3 classifiers correspond to columns and tables in the database.

1        21. A computer system comprising:  
2              memory means storing a database, and storing program instructions adapted to  
3              construct a schema object to represent a schema of the database, and  
4              manipulate the database using an aggregate classifier based on the  
5              schema object; and  
6              means for processing the program instructions.

1        22. The computer system of Claim 21 wherein the program instructions define  
2 a plurality of classifiers corresponding to the schema of the database, and map the  
3 classifiers to tables in the database.

1        23. The computer system of Claim 20 wherein the program instructions further  
2 define a "property" classifier which interacts with a single column on a single table in  
3 the database.

1        24. The computer system of Claim 23 wherein the program instructions further  
2 define an "object" classifier which contains one or more of the "property" classifiers.

1        25. The computer system of Claim 22 wherein the program instructions further  
2 define a "split-object" classifier which makes more than one "object" classifier appear  
3 as a single classifier.

1        26. The computer system of Claim 25 wherein the program instructions further  
2 define a "join" classifier which identifies how multiple "object" classifiers are linked  
3 in a "split-object" classifier.

1        27. The computer system of Claim 25 wherein the program instructions further  
2 define a "mapped property" classifier as a special form of the "split-object" classifier  
3 to manage data stored in a table of the database which serves as an index to another  
4 database table.

1        28. The computer system of Claim 22 wherein the program instructions  
2 further define a parameterized classifier which is instantiated when associated  
3 parameters are provided.

1        29. The computer system of Claim 21 wherein the program instructions  
2 construct a second schema object when a structure of the database is modified.

1        30. The computer system of Claim 29 wherein the program instructions  
2 construct the second schema object by re-writing classification definitions stored in  
3 the memory means.

1        31. The computer system of Claim 21 wherein the program instructions  
2 construct the schema object by writing classification definitions stored on the  
3 computer system using a field-based language.

1        32. The computer system of Claim 21 wherein the program instructions  
2 generate a SQL SELECT query using the query generator.

1        33. The method of Claim 21 wherein said manipulating step includes the step  
2 of generating a SQL INSERT query using the query generator.

1        34. The method of Claim 21 wherein said manipulating step includes the step  
2 of generating a SQL UPDATE query using the query generator.

1        35. The method of Claim 21 wherein said manipulating step includes the step  
2 of generating a SQL DELETE query using the query generator.

1        36. The computer system of Claim 32 wherein the program instructions further  
2 direct an aggregate classifier to interrogate the schema object to determine how  
3 different classifiers correspond to columns and tables in the database.

1        37. The computer system of Claim 21 wherein the program instructions  
2 construct a composite object to interact with an application program residing in said  
3 memory means.

1        38. A computer program product comprising:  
2              a computer-readable storage medium; and  
3              program instructions stored on said storage medium for constructing a schema  
4                      object to represent a schema of the database residing on a computer  
5                      system, and manipulating the database using an aggregate classifier  
6                      based on the schema object.

1        39. The computer program product of Claim 38 wherein the program  
2 instructions define a plurality of classifiers corresponding to the schema of the  
3 database, and map the classifiers to tables in the database.

1        40. The computer program product of Claim 39 wherein the program  
2 instructions further define a "property" classifier that interacts with only a single  
3 column on a single table in the database.

1        41. The computer program product of Claim 40 wherein the program  
2 instructions further define an "object" classifier which contains one or more of the  
3 "property" classifiers

1        42. The computer program product of Claim 39 wherein the program  
2 instructions further define a "split-object" classifier which makes more than one  
3 "object" classifier appear as a single classifier.

1        43. The computer program product of Claim 42 wherein the program  
2 instructions further define a "join" classifier which identifies how multiple "object  
3 classifiers" are linked in a "split-object" classifier.

1        44. The computer program product of Claim 42 wherein the program  
2 instructions further define a "mapped property" classifier as a special form of the  
3 "split-object" classifier to manage data stored in a table of the database which serves  
4 as an index to another database table.

1        45. The computer program product of Claim 39 wherein the program  
2 instructions further define a parameterized classifier which is instantiated when  
3 associated parameters are provided.

1        46. The computer program product of Claim 38 wherein the program  
2 instructions construct a second schema object when a structure of the database is  
3 modified.

1        47. The computer program product of Claim 46 wherein the program  
2 instructions construct the second schema object by re-writing classification definitions  
3 stored on the computer system.

1        48. The computer program product of Claim 38 wherein the program  
2 instructions construct the schema object by writing classification definitions stored on  
3 the computer system using a field-based language.

1        49. The computer program product of Claim 38 wherein the program  
2 instructions generate a search query using the schema object.

1        50. The computer program product of Claim 49 wherein the program  
2 instructions further direct an aggregate classifier to interrogate the schema object to  
3 determine locations of different classifiers in the database.

- 1        51. The computer program product of Claim 38 wherein the program
- 2        instructions construct a composite object to interact with an application program
- 3        residing on the computer system.

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